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Central Intelligence Agency

Washington, D.C. 20505

## DIRECTORATE OF INTELLIGENCE

14 September 1987

Soviet-Iranian Oil Pipeline and Rail Link: How Feasible?~~Summary~~

The publicity given to recent meetings between Soviet and Iranian officials to discuss an oil pipeline and an additional rail link probably is driven more by politics than economics. These projects are technically feasible but would entail major economic costs and require long lead-times to complete. The pipeline and additional rail link are not pressing needs for either country. Such projects, however, especially the pipeline, would increase the USSR's importance to Iran and possibly give the Soviets a degree of leverage over the Iranian Government. In the near term, the discussions help the Iranians appear less isolated as they confront the United States and enhance Moscow's efforts to be seen as a major player in the Gulf region. Although we expect the Soviets and Iranians to continue discussions, any progress on these projects is, at best, likely to be slow.

The Record of Contacts

Over the last three months, Soviet-Iranian contacts have increased, as Moscow and Tehran have become concerned about the growing US military presence in the Persian Gulf. Both sides appear to have decided, for the time being at least, not to let continuing policy disputes stand in the way of the development of closer bilateral contacts.

The Iranians claim that recent discussions have focused on transporting Iranian oil through the Soviet Union and building a new rail link between the USSR and Iran.

This memorandum was prepared jointly by the Office of Soviet Analysis, Office of Near Eastern and South Asian Analysis, and Office of Global Issues. Comments and queries are welcome and may be addressed to the Chief, Regional Policy Division, Office of Soviet Analysis

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- o In July and then again in early September, Iranian Deputy Foreign Minister Larijani met in Moscow with Foreign Minister Shevardnadze and other Soviet officials to discuss "political and economic cooperation."
- o On 26 July, according to Tehran radio, the Soviet Ambassador to Iran delivered a message to Iranian Prime Minister Musavi from Prime Minister Ryzhkov stressing the need for "long-term economic cooperation in the oil and gas sector."
- o During the first week of August, First Deputy Foreign Minister Vorontsov visited Tehran, where, according to the Iranian press, he and Musavi agreed that experts from both countries would begin discussions in September on exporting Iranian oil through the Black Sea.
- o A Soviet Foreign Ministry spokesman publicly acknowledged on 7 August that negotiations were "under way" for gas and oil pipelines and a new rail link between the USSR and Iran, but he claimed that no agreement had thus far been signed. Another Soviet official confirmed to a US Embassy officer in Moscow that nothing could have been signed during Vorontsov's recent visit because he did not have economic and trade representatives along with him. [REDACTED]

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Similar meetings since 1985 to discuss expansion of economic ties yielded little of substance, apparently because Moscow remained skeptical that Tehran had abandoned its hostility toward the USSR and because the Kremlin was reluctant to return Soviet economic technicians to Iran until the war with Iraq ended. [REDACTED]

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[REDACTED] in May 1986 that Moscow and Tehran were discussing a possible agreement to pipe Iranian oil north to serve the Transcaucasus region of the USSR, and that the Soviets were interested in taking Iranian crude through the northernmost section of a new IGAT 2 gas pipeline--yet to be built. Later that year, in August, following visits to Moscow by Larijani and the Iranian Oil Minister, Iranian media reported that Iran would resume natural gas exports to the USSR before the end of 1986. According to these reports, both countries were to undertake a three-month study to determine what repairs were needed along the 750-mile pipeline that was to carry the gas. We observed no such activity following those discussions. [REDACTED]

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Moscow has studiously sought to downplay this summer's talks. On 6 August a political counsellor at the Soviet Embassy in Baghdad told a US official that the alleged economic agreement was "nothing more than a vague statement of hope." A Soviet Foreign Ministry official claimed in an interview with an Abu

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Dhabi newspaper on 22 August that "everything that has been said about an agreement between Moscow and Tehran to establish or operate a pipeline is baseless and unfounded." Although we believe that these statements are accurate descriptions of the situation, such disclaimers also are designed to avoid angering Iraq and its Arab supporters, as well as to avoid provoking the US and other Western countries into taking concerted countermeasures. [REDACTED]

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### Technical Feasibility of Energy Projects

Oil and gas pipelines that would again link the USSR and Iran in trade would require major investments and could take several years to complete. Tehran's claim that a pipeline capable of delivering 700,000 barrels a day (b/d) of crude to the Soviet border could be ready within three months is unfounded. Lesser amounts could be moved, but major investment and about one year's work would still be needed first. Re-establishing gas trade by reopening an existing pipeline would also require heavy investment by Tehran and could require great sacrifices by the Iranian people--such as loss of heating fuel in Tehran and fuel required to run major industries--that the clerical regime might find difficult to justify politically. [REDACTED]

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### Iranian Oil Options

We believe that Tehran has limited options to deliver crude to the Soviet border, all of which would require major investments.

- o Building a pipeline capable of delivering 700,000 b/d of crude oil to Soviet border could take two years to construct [REDACTED] and would entail an outlay of nearly \$1 billion.\*
- o Conversion of an existing gas pipeline--the IGAT 1 pipeline--to handle 700,000 b/d is possible but not likely. The IGAT 1 carries gas produced as a result of oil production, associated gas, from Iran's oil fields in the southwest to its steel industry and cities in the north, including Tehran (see map attached at back). In the 1970s the line also was used to export gas to the USSR, but this portion of the pipeline has not been used

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\*Lead time used in all assessments assume Western engineering and construction techniques. If the Iranians provided most of the labor, lead times could more than double. [REDACTED]

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since 1980. Conversion of the entire pipeline for oil use would require the replacement of all gas with oil pumps, repair of the unused portion of the line--most likely corroded from lack of use--and the curtailment of all gas flow northward. This option could cost nearly \$500 million and take over a year to complete. We doubt Tehran would select it because no other gas source is available at this time to replace the lost gas to major cities and industries.

- o Another option could move small volumes of oil to the Soviet border within a year. Although this option has not been openly discussed, we believe Iran could convert the unused part of the IGAT 1 pipeline to an oil pipeline and tie it into others that carry oil northward from Iran's oilfields to the Tehran refinery. A combination of unused capacity and the use of drag reducing agents--used to reduce friction in pipelines and increase flow--could enable Iran to export nearly 200,000 b/d through this line. Even this option would take a year to complete and cost over \$200 million.

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#### Soviet Oil Options

In assessing the feasibility of Iranian oil shipments through the USSR from Moscow's standpoint, we have considered two options.

- o The Soviets could purchase Iranian oil, refine it, and then distribute it in the Baku region of the Soviet republic of Azerbaijan. Moscow in turn would sell Soviet crude oil on the world market that would otherwise be sent to Baku from Soviet oilfields in West Siberia--roughly 300,000 b/d. The proceeds from these exports would pay for the Iranian oil. We believe that the differential savings in Soviet pipeline transport costs would be small, and that to have a substantial economic benefit to Moscow, the Iranians would have to accept less than the market price for their oil.
- o The second option would entail use of spare capacity in the Soviet Baku-to-Batumi crude oil pipeline to transport Iranian crude to the Black Sea for export. Moscow would receive a transit fee for use of its pipeline. Despite Iranian and Western press claims that this could provide movement for as much as 700,000 b/d through the USSR, we believe the magnitude of Iranian exports would be limited by the excess pipeline capacity of roughly 100,000-150,000 b/d. The Soviet press has reported that the pipeline, which transports crude for processing to the Batumi

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refinery, operates at one-third capacity. Even so, because the Baku-Batumi pipeline has not operated at maximum throughput and line pressures for at least 15 years, several months may be needed to service and replace some of the pumping equipment and some pipeline segments. [REDACTED]

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From the Soviet economic perspective, the use of spare capacity in the Baku-Batumi pipeline would seem to be a more appealing option. It would entail minimal costs and disruptions for the Soviets while providing financial gain roughly equal to that likely under the first option. It would also not leave Soviet Azerbaijan highly dependent on Iranian oil and thus vulnerable to a decision by Tehran to stem the flow, as it did with gas sales to the USSR in 1980. From the political perspective, the second option--because of its limited scope--probably would not be as unsettling for Moscow's Arab friends. Over the longer term, if, as we expect, Soviet oil production begins to decline in the 1990s, a version of the first option--using Iranian oil in Soviet Azerbaijan--might become more attractive to the USSR. [REDACTED]

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#### Iranian Gas Options

Iran probably cannot produce enough gas to re-establish gas trade with the Soviets. Repairing existing pipelines that once moved gas to the Soviet border is possible, but Iran lacks the capability to boost oil production sufficiently to generate associated gas for export to the Soviet Union and still meet domestic needs. Alternatively, development of gas fields in Iran to meet these needs would require heavy investments by Tehran that it currently cannot afford. [REDACTED]

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In the 1970s Iran exported an average of nearly 10 billion cubic meters (bcm) per year of natural gas to the Soviet Union through the IGAT 1 pipeline from oilfields in southwest Iran. Planning for even higher exports and growing domestic requirements, Tehran and Moscow started construction of a new pipeline--IGAT 2--that would have a capacity of 27bcm and would carry 17 bcm annually from the giant Kangan gas field in southern Iran through the USSR for use in Western Europe. Gas exports were interrupted periodically during and shortly after the Iranian revolution in 1979. In 1980, after IGAT 2 had already been partially completed, the Iranians sharply raised the price of gas. When a compromise could not be reached, Iran shut off gas exports completely and ceased work on the IGAT 2 pipeline. [REDACTED]

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Most Iranian gas is associated with oil output, and nearly 7 million b/d of oil production would be required to produce 8 bcm of gas for export. Oil output in recent months has averaged about 2.5 million b/d. At a minimum, several expensive and time

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consuming projects--particularly to tap the Kangan gas field--would be required before exports could be resumed.

- o Completion of the Kangan gas facility to process non-associated gas would be necessary. Now rescheduled for completion in late 1987, the gas facility has been subject to work stoppage and a lack of funds. We believe completion even in 1988 will be difficult to achieve.
- o Completion of the IGAT 2 pipeline and installation of sufficient compressor stations would be needed to move the gas from southern Iran. Discussions have begun between the National Iranian Gas Company and a construction consortium to link the IGAT 2 pipeline with the older IGAT 1 and install the necessary compressors. This contract could take over a year to complete. Alternatively, completion of IGAT 2 to the Soviet border could take several years.
- o Pipelines and very old Soviet compressors already in place along the northern half of the IGAT 1 pipeline to the Soviet border need to be overhauled. In our judgment, repairs along this portion alone could take up to a year to complete but could be done simultaneously with other gas projects. [REDACTED]

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We believe that Tehran would also require that its own goals were met and several other projects completed before exports resumed. Gas gathering facilities supplying the IGAT 1 pipeline from Iran's oilfields have suffered serious damage as a result of the war with Iraq. These facilities are necessary to maintain gas supplies for domestic needs, and, at current low oil production rates, could not provide sufficient supplies to support gas exports to the USSR. Tehran might insist that these facilities be repaired before exports resume to ensure increasing domestic demands are met. Lead times to acquire and install pressure vessels and compression equipment could exceed a year.

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Oil production potential from Iranian reservoirs has suffered as a result of a lack of progress in gas injection since the start of the war with Iraq. Reinstating a costly gas injection program to prevent future oil reservoir damage would have to be given top priority, in our view, before Iran considers exports. High pressure injection equipment has long delivery times, but we believe this project could be partially in place in about two years. Over four years would be required to complete the entire injection project, including development of the offshore Pars gas field in the southern Gulf and installation of pipelines, compressor stations, injection wells, and injection

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equipment. Such a program could cost around \$5 billion, but without it Iran faces the prospect of more depletion of its oil resources and erosion in productive capacity. [REDACTED]

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#### The Turkmenistan-Persian Gulf Rail Link

The Iranian press has reported that the USSR and Iran also have discussed the possibility of constructing a rail line between the Soviet border and the Persian Gulf. One such line already exists between the Iranian border city of Jolfa--which is linked to the Soviet Yerevan-to-Baku railroad--and Bandar Khomeini on the Gulf. The Soviets do not export to or import from the Gulf via this line. It is used almost exclusively for bilateral Soviet-Iranian trade and for Iranian transit trade with Western European and East Asian countries. [REDACTED]

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Details are sketchy concerning the progress of negotiations and the planned location of a new rail line. We believe that the most likely route for a new line would be a roughly 100-km stretch between the Soviet Ashkhabad-to-Chardzhou rail line in the Turkmen republic and the Iranian city of Mashhad in northeastern Iran. [REDACTED] the Iranian Roads and Transportation Ministry reported that in 1982 the USSR and Iran discussed the construction of such a rail line. A railroad connection already exists from Mashhad to the Persian Gulf ports of Khorramshahr and Bandar Khomeini. [REDACTED]

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This eastern route would be beneficial for Iran because it is further away from the hostilities with Iraq than the existing link from Jolfa. It would also shorten the railroad shipping distance from the Far East by up to several hundred kilometers. Iran receives a large volume of freight from the Far East, particularly from Japan and South Korea, by way of the Soviet Trans-Siberian railroad. Regardless of the location of the new rail link, it would provide capacity needed to ease the rail traffic delays between the two countries and would be particularly important if Soviet-Iranian trade increases. It could also serve as an alternative route to transport small quantities of Iranian goods if Iran lost the use of its southern ports. [REDACTED]

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It is possible that a Soviet-Iranian agreement could also involve a rail line currently under construction between Bafq-- which is in central Iran and is already linked to the national rail net--and the Persian Gulf port of Bandar Abbas. This 683-km rail line was started in 1983, and [REDACTED] that it is scheduled for completion in 1988. [REDACTED] however, that although its completion has a high priority, construction has been delayed because of a scarcity of funds. This suggests that the Iranians might welcome Soviet help in

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finishing it. A South Korean company has been building the more difficult portions of the line while the Iranians have been building the rest. Long-term Iranian plans for rail development also include links between the national rail network and the ports of Jask and Bandar Beheshti (formerly Chah Bahar) on the Gulf of Oman. [REDACTED]

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The USSR has a history of post-Shah involvement in Iranian rail development, having electrified the rail line between Jolfa and Tabriz in 1982, and could become involved in constructing any new line. If they do, it is possible that Soviet railroad troops, which are subordinate to the Ministry of Defense, would be involved. It is more likely, however, that the Soviet Ministry of Transport Construction would be the organization responsible for the rail line's construction, as it was in 1982. At the same time, Iran would probably seek to limit the number of Soviet personnel involved in any such project to technicians. [REDACTED]

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The different gauges of the Soviet and Iranian rail systems would require that freight be transferred between Soviet and Iranian rail cars at the rail link, as at present. This would slow traffic, particularly if the volume were heavy and equipment and facilities to transfer the cargo were inadequate. [REDACTED]

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In our view, the USSR does not have a pressing economic need for a rail route across Iran to ship or receive freight through Iran's Persian Gulf ports. Currently, the domestic capacity of rail links to Soviet ports is adequate for the USSR's needs. There potentially could be a small economic gain for the USSR in shipping some trade goods via Iran to and from the east African countries and India because the distances would be considerably shorter than existing shipping routes. Politically, however, such a rail link would have major significance as a symbol of growing Soviet influence in Iran and the Gulf region as a whole. [REDACTED]

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### Outlook

The technical complexities and probable meager economic gains to be made from any oil, gas, or railroad projects in the near term strongly suggest that the recent Iranian claims have more of a political, than an economic, rationale. The Soviets are likely to continue discussions with the Iranians on these projects, if only as a way of developing some influence with Iran and demonstrating to the United States the USSR's ability to deal with the Iranian regime. The Iranians, for their part, are eager to exploit and exaggerate the significance of these talks as proof that they have won a degree of Soviet support, but may back away from any project before putting up substantial investments of scarce foreign exchange. [REDACTED]

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We would not rule out some progress on firming up plans for any of the projects. But the record of previously unfulfilled Iranian claims, the dubious feasibility of some of the projects, Moscow's probable unwillingness to sink significant investment into deals the Iranians could later renege on, and the negative impact such cooperation would have on Soviet relations with Iraq, all point to slow movement, at best, on these projects. Iran, for its part, would also be hesitant to become overly dependent on Soviet economic support, given the USSR's history of pulling out advisers from crucial development projects in Iran. [REDACTED]

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# Energy Pipelines and Rail Lines in Iran and Southern USSR, September 1987



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